

WHAT IS CLAIMED IS:

1 1. A method of interfacing with network management information on a network
2 device, comprising:
3 receiving a management information base (MIB) including information related to one
4 or more aspects of a network device;
5 extracting a subset of information from the MIB describing at least one aspect of the
6 network device; and
7 generating a set of object-oriented classes and object-oriented methods corresponding
8 to the subset of information in the MIB..

1 2. The method of claim 1, wherein information in the MIB corresponds to a set
2 of network parameters organized in a hierarchy and used to describe aspects of the network
3 device.

1 3. The method of claim 1, wherein extracting information from the MIB further
2 includes lexically recognizing a set of tokens corresponding to a set of network parameters
3 that describes aspects of the network device and parsing the tokens according to a hierarchical
4 relationship between the set of parameters.

1 4. The method of claim 1, wherein the relationship among the object-oriented
2 classes is a hierarchy that corresponds to the MIB.

1 5. The method of claim 1, wherein the methods generated include methods
2 capable of accessing and manipulating objects instantiated from at least one of the object-
3 oriented classes.

1 6. The method of claim 5, wherein the methods include one or more of the
2 operations used to operate on the MIB.

1 7. The method of claim 6, wherein the operations used to operate on the MIB are
2 selected from a group of operations including get, set, and test of SNMP (simple network
3 management protocol) variables.

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1 8. A method of interfacing with network management information on a network
2 device, comprising:

3 providing a management information base (MIB) including information related to one
4 or more aspects of a network device; and

5 using a set of object-oriented classes and object-oriented methods that corresponds to
6 the MIB and information related to one or more aspects of the network device.

1 9. The method of claim 8, wherein information in the MIB corresponds to a set
2 of network parameters organized in a hierarchy and capable of describing aspects of the
3 network device.

1 10. The method of claim 8, wherein the relationship among the object-oriented
2 classes is a hierarchy that corresponds to the MIB.

1 11. The method of claim 8, wherein the object-oriented methods are capable of
2 accessing and manipulating objects instantiated from at least one of the object-oriented
3 classes.

1 12. The method of claim 11, wherein the object-oriented methods correspond to
2 one or more of the operations used to operate on the MIB..

1 13. The method of claim 12, wherein the one or more operations used to operate
2 on the MIB are selected from a group of operations including get, set, and test of SNMP
3 (simple network management protocol) variables.

1 14. An apparatus to interface with network management information on a network
2 device, comprising:

3 a receiver module configured to receive a management information base (MIB)
4 including information related to one or more aspects of the network device;

5 an extraction module configured to extract a subset of information from the MIB
6 describing at least one aspect of the network device; and

7 a generation module configured to generate a set of object-oriented classes and object-

8 oriented methods corresponding to the subset of information in the MIB..

1 15. The apparatus of claim 14, wherein information in the MIB corresponds to a
2 set of network parameters organized in a hierarchy and used to describe the network device.

1 16. The apparatus of claim 14, wherein the extraction module extracts information
2 from the MIB by lexically recognizing a set of tokens corresponding to a set of network
3 parameters describing the network device and parsing the tokens according to a hierarchical
4 relationship between the set of parameters.

1 17. The apparatus of claim 14, wherein the relationship among the object-oriented
2 classes is a hierarchy that corresponds to the MIB.

1 18. The apparatus of claim 14, wherein the object-oriented methods generated
2 include object-oriented methods capable of accessing and manipulating objects instantiated
3 from at least one of the object-oriented classes.

1 19. The apparatus of claim 14, wherein the object-oriented methods include one or
2 more of the operations used to operate on the MIB..

1 20. The apparatus of claim 19, wherein the operations used to operate on the MIB
2 include are selected from a group of operations including get, set, and test of SNMP (simple
3 network management protocol) variables.

1 21. An apparatus for interfacing with network management information on a
2 network device, comprising:

3 a first storage area configured to store a management information base (MIB)
4 including information related to one or more aspects of a network device; and

5 a second storage area configured to store a set of object-oriented classes and object-
6 oriented methods that corresponds to the MIB and information related to one or more aspects
7 of the network device.

1 22. An apparatus comprising a computer-readable storage medium tangibly
2 embodying program instructions for creating an interface to obtain network management
3 information, the program instructions including instructions operable to cause a processor to:

4 receive a management information base (MIB) including information related to one or
5 more aspects of a network device;
6 extract a subset of information from the MIB describing at least one aspect of the
7 network device; and
8 generate a set of object-oriented classes and object-oriented methods corresponding to
9 the subset of information in the MIB.

1 23. An apparatus comprising a computer-readable storage medium tangibly
2 embodying program instructions for creating an interface to obtain network management
3 information, the program instructions including instructions operable to cause a processor to:
4 provide a management information base (MIB) including information related to one
5 or more aspects of a network device; and
6 use a set of object-oriented classes and object-oriented methods that corresponds to
7 the MIB and information related to one or more aspects of the network device.

1 24. An apparatus for interfacing with network management information on a
2 network device, comprising:
3 means for receiving a management information base (MIB) including information
4 related to one or more aspects of a network device;
5 means for extracting a subset of information from the MIB describing at least one
6 aspect of the network device; and
7 means for generating a set of object-oriented classes and object-oriented methods
8 corresponding to the subset of information in the MIB.

1 25. An apparatus for interfacing with network management information on a
2 network device, comprising:
3 providing a management information base (MIB) including information related to one
4 or more aspects of a network device; and
5 using a set of object-oriented classes and object-oriented methods that corresponds to
6 the MIB and information related to one or more aspects of the network device.